REMARKS

Claims 1-13, 24-29, 51 and 52 are currently pending. By this response claims 14-20, 23 and 30-51 have been canceled without prejudice to or disclaimer of the subject matter recited therein. Claims 6 and 28 have been amended to correct minor typographical errors, and claim 53 is new. Applicants respectfully submit that the scope of claims 6 and 28 is not affected by the present amendments, and that further search and consideration is unnecessary.

The allowance of claims 1-11 and 25-27, and the indication of allowable subject matter in claim 29 are hereby acknowledged. However, Applicants believe that all of independent claims are in condition for allowance, and respectfully request reconsideration and withdrawal of the rejections in the outstanding Office Action.

Claims 12, 13, 51 and 52 have been rejected under 35 U.S.C. §101 on the basis that a signal conveys information, and for the information to be conveyed, a physical carrier, such as an electromagnetic wave, is needed. Applicants' independent claim 12 is directed to a method of reducing the transmitted power in a quadrature modulated optical data signal and recites in the body of the claim an "optical" data signal. Applicants respectfully submit that it is clear from the claim language that the claimed signal is conveyed by an optical carrier, which is a physical carrier similar to an electromagnetic wave. Therefore, claims 12, 13, 51 and 52 recite statutory subject matter, and Applicants request withdrawal of the rejection under 35 U.S.C. §101.

Claims 51 and 52 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Applicants traverse this rejection and respectfully assert that the rejected claims are not indefinite.

With specific regard to claim 51, the Examiner has indicated that the terms "orthogonal data signals" and "two side carriers" are indefinite because they lack antecedent basis. Applicants point out, however, that these terms are first introduced in claim 51, and therefore, do not require antecedent basis.

For at least the above reasons, claims 51 and 52 are not indefinite. Accordingly, Applicants request that the Examiner withdraw the instant rejection.

Claims 12, 51 and 52 have been rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent No. 6,895,348 to Miyamoto. Applicants traverse this rejection and respectfully assert that Miyamoto fails to disclose all of the claimed limitations.

With specific regard to claim 12, Miyamoto does not provide for a **quadrature modulated** optical data signal as claimed. Rather, in Miyamoto, **intensity modulation** is used, and return to zero (RZ) modulation is superimposed upon it. See Miyamoto col. 14:20-25. Indeed, Miyamoto makes no mention of quadrature modulation. For at least the above reason, claim 12 is patentable over Miyamoto.

Claims 51 and 52 depend from claim 12, and are patentable for the same reasons. Accordingly, Applicants request that the Examiner withdraw the instant rejection.

With further reference to newly added claim 53, Applicants point out that Miyamoto's use of intensity modulation causes a logical 1 to result in a pulse and a logical 0 to result in no pulse at all. Accordingly, the transmitted power in Miyamoto is a function of the data pattern that is being transmitted. Claim 53, on the other hand, expressly states that the transmitted power is independent of the data pattern. Thus, claim 53 further defines over Miyamoto.

Claims 12, 13, 24, 28, 51 and 52 have also have been rejected under 35 U.S.C. §102(e) as allegedly being anticipated by commonly-assigned U.S. Published Patent Application 2002-0109883 to Schemmann *et al.* Applicants traverse this rejection and respectfully assert that Schemmann fails to disclose all of the claimed limitations.

With specific regard to claim 12, Schemmann does not provide for decreasing transmitted power to zero at approximately **a mid point of each of the transitional states** of a quadrature modulated optical data signal as claimed. In fact, Schemmann is completely silent with regard to decreasing the transmitted power as recited in the claim. Schemman only mentions power in paragraph [0042] with reference to Figure 8. Simply put, Schemman does not disclose or appreciate the features recited in claim 12. Accordingly, claim 12 is patentable over Schemmann. Claims 13, 51 and 52 depend from claim 12, and therefore also recite patentable subject matter. Accordingly, Applicants request that the Examiner withdraw the instant rejection.

With specific regard to claim 24, Schemmann does not provide for the configuration of a Mach-Zender modulator and at least two phase modulators as recited in the claim. Rather, as shown in Figure 1 of Schemmann, the optical signal is first phase modulated by phase modulators PM1-PM4, and output into Mach-Zender amplitude modulators (MZ1-MZ8). This is not the same configuration as recited in Applicants' claim 24.

In making the rejection, the Examiner indicates that the phase modulators PM1-4 are equivalent to the Mach-Zender amplitude modulators (MZ1-MZ8). This is incorrect. As stated at paragraph [0030], the Mach-Zender interferometers (MZ1-MZ8) act as an amplitude

modulator and imprint the input data signal onto the spectrum of the optical carrier signal. The phase shifting is due to optical shifter OS2, which shifts the carrier signal 90 degrees in phase. Therefore, the modified configuration suggested by the Examiner is not the same as that recited in claim 24. Based on the above arguments, claim 24 recites patentable subject matter, and Applicants request that the Examiner withdraw the instant rejection.

With specific regard to claim 28, Schemmann does not provide for the configuration of a Mach-Zender modulator and at least two phase modulators as recited in the claim. Rather, as shown in Figure 1 of Schemmann, the optical signal is first phase modulated by PM1-PM4, and output to a respective one of Mach-Zender amplitude modulators MZ1-MZ8. This is not the same configuration as recited in Applicants' claim 28. Claim 28 recites patentable subject matter, and Applicants request that the Examiner withdraw the instant rejection.

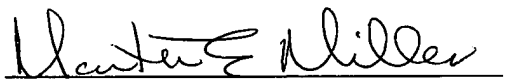
CONCLUSION

Applicants assert that all claims pending in the present application are in condition for allowance and respectfully request that the Examiner pass this case to issuance at the Examiner's earliest convenience.

The Examiner is invited to contact the undersigned at (202) 220-4200 to discuss any matter concerning this application. Applicants authorize payment of the appropriate fees under 37 CFR §§1.16 or 1.17 and crediting any overpayment to Deposit Account No. 11-0600.

Respectfully submitted,

Dated: January 30, 2008



Martin E. Miller
Registration No. 43,698

KENYON & KENYON LLP
1500 K Street, N.W. – Suite 700
Washington, D.C. 20005-1257
Telephone: (202) 220-4200
Facsimile: (202) 220-4201